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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/973,305	04/09/1998	MATS LEIJON	70564-2/8246	6734
25269	7590	04/07/2004	EXAMINER	
DYKEMA GOSSETT PLLC FRANKLIN SQUARE, THIRD FLOOR WEST 1300 I STREET, NW WASHINGTON, DC 20005			MULLINS, BURTON S	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

KS

**Office Action Summary**

Application No.

08/973,305

Applicant(s)

LEIJON ET AL.

Examiner

Burton S. Mullins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 February 2004.  
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 8, 9, 11-35 and 39-47 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☒ Claim(s) 1-6, 8 and 12-34 is/are allowed.  
 6) ☒ Claim(s) 9, 11, 35 and 39-47 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. Replacement drawings were received on February 3, 2004. These drawings overcome the previous objection.

### *Claim Objections*

2. Claim 9 is objected to because of the following informalities: On line 6, insert “an” before “inner semi-conducting layer”. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. Claims 1-6, 8 and 12-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, recitation “for connecting the neutral point of said winding in circuit to ground” makes no sense. Does the “circuit” refer to the circuit formed by the machine winding, the network, and/or the cable elements and if so, which elements make up the circuit? In claim 1, recitation “only a minority of said strands being non-isolated from each other” is vague and indefinite. How are the strands “non-isolated” from each other? Are they mechanically non-isolated from each other, or electrically non-isolated, i.e. non-insulated? The examiner will take the term “non-isolated” to mean “electrically non-isolated” or “non-insulated.”

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 9, 11, 35 and 39-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shildneck (USP 3,014,139) in view of Elton et al. (USP 5,036,165).

Shildneck discloses the claimed invention except for utilizing a cable winding comprising of at least one semiconducting layer around the conductor. Shildneck discloses a direct cooled cable winding for an electromagnetic device such as a large turbine-driven generator. In column 2, lines 39-72, Shildneck teaches several advantages of the use of cable windings over conventional rectangular bars such as conductor flexibility and having shorter length of the conductor end-turn portions. Elton et al. disclose an electrical cable provided with an internal grading layer of semiconducting pyrolyzed glass fiber layer in electrical contact with a cable conductor. In an alternate embodiment, Elton et al. disclose an electrical cable provided with an exterior layer of internal grading layer of semi-conducting pyrolyzed glass fiber layer in contact with an exterior cable insulator having a predetermined reference potential. Furthermore, note that Elton et al. teach that it is known to provide a semiconducting layer in the insulation of a conductor and to connect that layer to a fixed potential in order to provide an equipotential surface on the conductor preventing corona discharge around the conductors.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the cable winding as taught by Elton et al. to the dynamo electric machine of Shildneck since such a modification according to Elton et al. would prohibit the development of corona discharge. Elton et al. further teach in column 2, lines 42-48 that

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having a semiconducting layer would bleed off any static electric discharge or electric discharge developed on the exterior surface of the insulation.

In regard to forming the semiconducting layer with the same coefficient of thermal expansion as that of the insulation layer, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed these layers with similar coefficients since it was known in the art that the expansion rate of the two layers would be the same and this is desirable in order to prevent cracking of the insulation and wear between the two.

### *Double Patenting*

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 9 and 11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 32/35/36 of copending Application No. 10/603,802. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 32 of the '802 application covers the cable structure recitations of claim 9 of the present application, with claims 35-36 of the '802 application specifying that the outer semi-conducting layer is connected to a node at earth potential, which reads on the last limitation of claim 9: "grounding means for connection to at least one selected point of said winding to ground."

8. Claims 35 and 39-47 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 61/63 of copending Application No. 10/603,802. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 61 of the '802 application covers the electrical high-voltage rotating machine cable structure recitations of claim 35 of the present application including "equipotential surfaces" and a high-voltage winding "configured to form at least a full uninterrupted turn in the winding of said machine", with claim 63 further defining that the inner and outer layers are semi-conducting layers.

Regarding claims 39-45 and 47, refer to claims 64, 62, 65-69 and 61 of the '802 application, respectively.

Regarding claim 46, the cable disclosed in claim 61/63 of the '802 application is inherently an electrical current transmission cable.

***Response to Arguments***

9. The reply filed on February 3rd, 2004 is not fully responsive to the prior Office Action because applicant has not addressed the rejections of claims 1-6, 8 and 12-34 under 35 USC 112, second paragraph, nor have the rejections of claims 9, 11, 35 and 39-47 under 35 USC 103 been addressed. However, since a new grounds of rejection (double-patenting) has been applied, a non-final action on the claims as amended in the February 3rd, 2004 amendment has been written. With regard to the rejection of claims 9, 11, 35 and 39-47 under 35 USC 103, applicant may refer to the arguments made in the previous action.

***Allowable Subject Matter***

10. Claims 1-6, 8 and 12-34 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action. The prior art does not teach the claimed high voltage AC machine winding structure including a neutral point and at least one conductor comprising plural strands, with a minority of the plural strands electrically "non-isolated", i.e., "insulated", from each other, and with grounding means for connecting the neutral point of the winding to ground.

*Conclusion*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm  
4 April 2004